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Central Bank Communication during Normal and Crisis Times

Monetary Dialogue September 2018

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Abstract

Central banks have intensified their communication strategy since the mid 1990's and it has become an important instrument of central banks' policymaking toolkit. A large empirical evidence suggests that central bank communication has effectively enhanced the transmission of monetary policy before and during the financial crisis. Nevertheless, the use of communication as a policy instrument is fragile since it depends on economic agents' perceptions and beliefs. It is crucial that central bank communication be consistent with policy decisions.

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LIST OF ABBREVIATIONS

ECB	European Central Bank
BoE	Bank of England
FOMC	Federal Open Market Committee
CBPP	Covered bonds purchase programme
MBS	Mortgage Backed Securities
MRO	Main Refinancing Operations
QE	Quantitative Easing
SMP	Securities market programme
VLTRO	Very long-term refinancing operations
ZLB	Zero lower bound

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EXECUTIVE SUMMARY

Background

Central banks communication has been crucial during the crisis, but the increasing trend in central bank communication preceded the financial crisis. It has been certainly motivated by the request of increased transparency and accountability of independent institutions in charge of the conduct of monetary policy. Beyond the institutional argument, central banks communication is also instrumental to enhance the transmission of monetary policy as it conveys information on the present and future stance of monetary policy.

Aim

- All indicators assessing central banks communication show a steady increase since the mid 1990's indicating that it has become a major issue. The financial crisis has reinforced this trend.
- Communication matters as it makes centrals banks decisions more transparent. On the one hand, transparency of monetary policy is needed to make independent central bank accountable of their decisions. On the other hand, communication may enhance the transmission of monetary policy.
- There is a large empirical evidence suggesting that communication provides central banks with an instrument to influence economic agents' expectations of future monetary policy decisions, strengthening central banks' ability to achieve their goals.
- The role of communication has been reinforced during the financial crisis when the policy rate has been constrained by the zero lower bound. Central banks have sought to influence asset prices and interest rate expectations through the announcement of several non-standard measures.
- The "forward guidance" policy implemented by the ECB was a major change, following years of "we never pre-commit", a usual mantra by Jean-Claude Trichet.
- Non-standard monetary policy measures adopted during the financial crisis worked mainly through the confidence and signalling channels, so through central bank announcements of these policies. One key example of the powerful effect of communication on sovereign yields has been the famous "whatever it takes" announcement by ECB President.
- There is a large evidence of sizeable effect of central banks communication on financial market variables such as asset prices, yields and exchange rates.
- Nevertheless, the use of communication as a policy instrument is fragile. Imperfectly controlled communication may trigger adverse effect or mitigate the expected impact of an announcement. Central banks need to implement consistent communication, which shall also be consistent with their policy decisions.

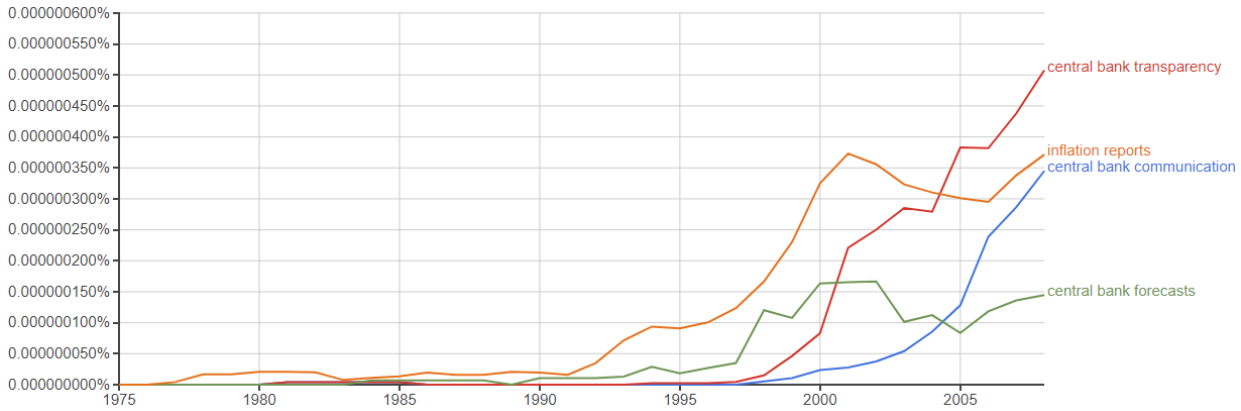
1. INTRODUCTION

KEY FINDINGS

Communication has become a major tool for central banks. Empirical evidence confirms the effectiveness of communication for the transmission of monetary policy. During the financial crisis, several announcements such as the "whatever it takes" by ECB President and the implementation of a forward guidance strategy have played a key role in shaping the term structure of interest rates and reducing sovereign yields in the euro area. Recent evidence also suggests that central bank communication should be consistent with policy decisions.

In June 1995, Alan Greenspan, a former chairman of the Federal Reserve said to a business audience "If I've made myself too clear, you must have misunderstood me". At that time, communication was in its infancy and its role for the conduct of monetary policy was still stammering. Two decades later, central banking has entered a new era where communication plays a central role in the definition and implementation of monetary policy. Since the mid-nineties, monetary policy strategy has markedly increased the use communication tools such as "central bank transparency", "central bank communication", "inflation reports" or "central bank forecasts" (figure 1). Central bankers are now undoubtedly expected to communicate and to be transparent on the goals of monetary policy as well as the expected effect of their decisions.

Figure 1: Occurrence of four "central bank communication" terms in books in English

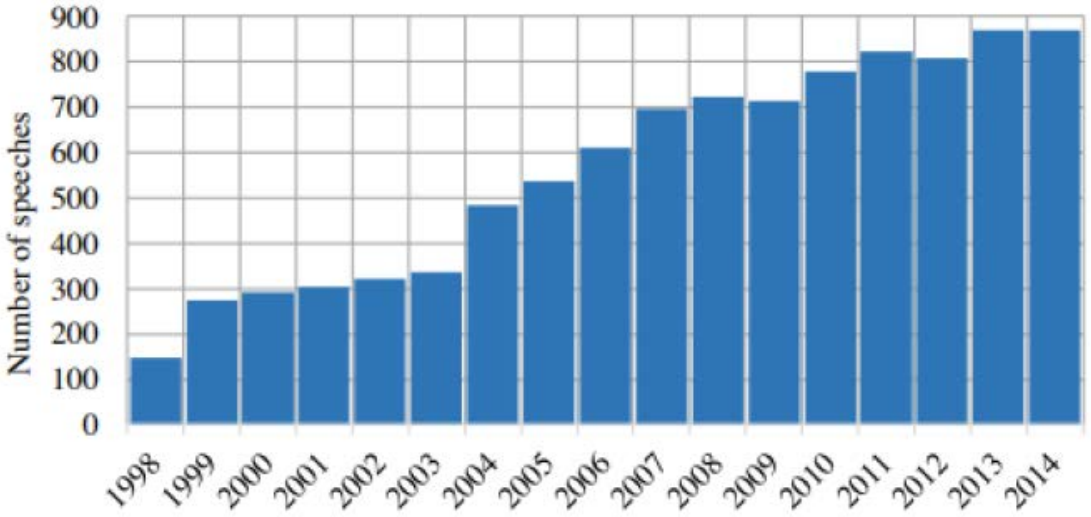


Source: Google Ngram Viewer. Sample period: 1975-2008.

Communication stands for all the way through which central banks disseminate information to a large audience: households, firms, financial markets, scientific community, members of Parliament. It is now usual for central banks to publish press releases to inform about the monetary policy decisions adopted, to publish statements explaining those decisions and to hold press conferences to answer questions and provide information about the central banks' forecast on the economic, monetary and financial variables. The ECB has been using such communication tools since its onset in 1999. Over the same time span, this has been the case also for other major central banks and notably the Federal

Reserve. However, until 1994 monetary policy decisions in the US were not explicitly communicated by the Federal Reserve.[1] The stance of monetary policy had to be inferred afterwards, from the Fed interventions on the funds market.

Figure 2: Speeches given by central bank committee members



Source: Lustenberger and Rossi (2017). Note: Sample includes 73 countries.

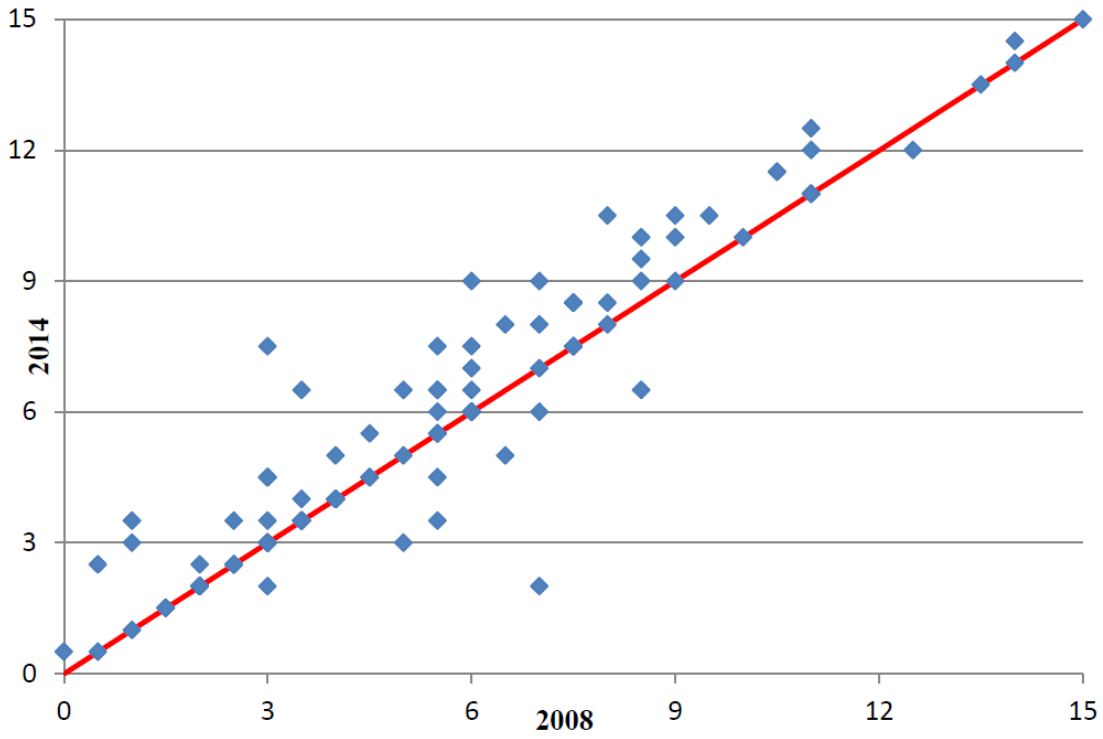
Some central banks have gone one step further and provide information on the internal decision-making process. The Bank of England and the Federal Reserve issue minutes with details on the discussions held during their meeting and potential dissent among board members. The votes are also published. Regular publications such as the ECB *Economic Bulletin* and the BoE *Inflation Report* also provide in-depth assessments on the economic, monetary and financial developments and outlook. Members of the Governing Council give regular interviews, speeches, have interactions with other stakeholders (analysts, researchers) and hearings to MEPs. A large body of literature has confirmed the rising trend of communication and transparency.[2] Lustenberger and Rossi (2017) have identified nearly 900 speeches given by central banks committee members of 73 countries in 2013 and 2014 compared to less than 100 in 1998 (Figure 2). The financial crisis and the implementation of non-standard measures have certainly reinforced the need for explanations of policy decisions. However, the trend was already rising before 2007.

Indicators of transparency, such as the one computed by Dincer and Eichengreen (2014) for a large panel of central banks around the world, highlight that central banks communication has increased during the financial crisis illustrating the effort made to explain central banks decisions featuring additional and non-standard monetary policy instruments (Figure 3).

[1] In 1994, policy decisions were communicated through a press release and the Federal Reserve started to publish statement explaining those decisions in 1999.

[2] See Eijffinger and Geraats (2006), Crowe and Meade (2007) and Dincer and Eichengreen (2014).

Figure 3: Comparison of Transparency Index in 2008 and 2014



Source: Based on Dincer and Eichengreen (2014) and updated in September 2015.

This policy brief aims at emphasizing the role and importance of central banks communication in modern central banking. It notably sheds some lights on the role played by communication and its limit for the effectiveness of monetary policy transmission, both in normal times and during crisis. The rest of the paper is organized as follows. The second section deals with the issue of active central banks communication and the role it is expected to play in normal times. In the third section, we focus on the specific issues related to central banks communication during crisis. Finally, section four stress that central banks communication interacts with policy decisions so that central bankers should avoid conveying opposite signals to the market.

2. WHY DO CENTRAL BANKS COMMUNICATE ON MONETARY POLICY?

2.1. The theoretical reasons for more central bank communication

The development of communication stems notably from the will to make monetary policy more transparent, which is inherently related to the independence of central banks. The trend towards more independence started in the eighties and has progressively expanded from industrialized to emerging and developing countries.[3] The implementation of monetary policy is now generally delegated to non-elected bodies: central banks which have been assigned objectives regarding price stability, full employment and often financial stability tasks. With important policy decisions taken by non-elected bodies but pursuing social goals, there is a need to make these institutions accountable. Transparency shall help politicians and citizens to assess whether central banks decisions comply with the assigned objectives and tasks.

Besides, central bank communication also matters for the effectiveness of monetary policy. It is not only motivated by the desire to inform, but also to explain the decisions implemented. Its main purpose is to manage economic agents' expectations, especially short-term interest rate expectations, in turn affecting (future) long-term interest, which are that are key drivers for consumption and investment decisions.

By shaping the term-structure of interest rates, central banks communication can affect the growth-inflation pattern of the economy. According to Goodfriend (1991), "by making itself more predictable to the markets, the central bank makes market reactions to monetary policy more predictable to itself. And that makes it possible to do a better job of managing the economy".

2.2. Central bank communication in normal times

Before the crisis, it was already recognized that communication played a role for the transmission of monetary policy. The issue of the effect of communication had already been analysed. Guthrie and Wright (2000) find that announcements made by the Federal Bank of New Zealand triggered changes in interest rates beyond the impact of open market operations. Blinder et al. (2008) provide a comprehensive survey of empirical evidence suggesting that central bank "communication can be an important and powerful part of the central bank's toolkit since it has the ability to move financial markets, to enhance the predictability of monetary policy decisions, and potentially to help achieve central banks' macroeconomic objectives".

For instance, Ehrmann et al. (2012) study the effects of increased central bank transparency and communication on the dispersion among professional forecasters of key economic variables in a panel of 12 advanced economies. They find evidence for sizeable effects stemming from the announcement of a quantified inflation objective and the publication of inflation and output forecasts. However, they also find evidence for diminishing marginal effects related to increases in transparency, while the disagreement among the public is not affected. This may suggests that there are limits to transparency for the effectiveness of monetary policy.[4] In a similar vein, Neuenkirch (2012) studies the influence of central bank transparency and informal central banks communication on the formation of money market expectations for a panel of nine major central banks from January 1999 to July 2007. He finds that transparency reduces the bias in money market expectations compared to the policy path and

[3] See Crowe and Meade (2007), Dincer and Eichengreen (2014).

[4] Transparency is yet still an important feature of central banking to improve accountability.

dampens their variation. He also shows that speeches by policymakers help manage financial market expectations by reducing the variation of expectations. Finally, he finds that the explanation of interest rate decisions leads to a smaller bias in expectations and that the explicit prioritization of objectives and provision of information on unanticipated macroeconomic disturbances leads to a reduction in the variation of expectations.

Sturm and De Haan (2011) examine whether the ECB communication adds information compared to the information provided by a Taylor rule model in which real-time expected inflation and output growth are used. They track five indicators based on ECB President's introductory statements at the press conference following an ECB policy meeting. Results suggest that the information content provided by the indicators helps to predict the future ECB policy decisions. Jansen and De Haan (2009) assess the impact of such terms as `vigilance', `vigilant' or variations thereof in ECB communications as indicators of ECB's perception of risks to price stability and for predicting its policy decisions. According to the authors, between 2005 and 2008, media and financial markets did interpret the presence of those terms in ECB statements as signals for future interest rate hikes.

3. CENTRAL BANKS COMMUNICATION DURING CRISIS TIMES

As emphasized above, central banks communication has now become a common monetary policy tool, aiming at shaping interest rate expectations and influencing asset prices. During the financial crisis, the short-term policy rate reached the zero lower bound (ZLB) and central banks lost the ability to implement additional stimulus through standard instruments.

Non-standard measures aimed at circumventing the zero lower bound and increased the role of communication in the transmission of monetary policy. Quantitative easing programmes through assets purchases and forward guidance on interest rates enabled central banks to implement additional stimulus once the ZLB was reached. These measures affect expectations on the dynamics of future interest rate and increase confidence in the economy.

Even though central banks cannot reduce the policy rate further, they may affect the term structure of interest rates by reducing expected short-term interest rates. The transmission notably hinged on the signalling and confidence channel. The implementation of quantitative easing (QE) did signal that the stance of monetary policy would remain expansionary over an extended period.

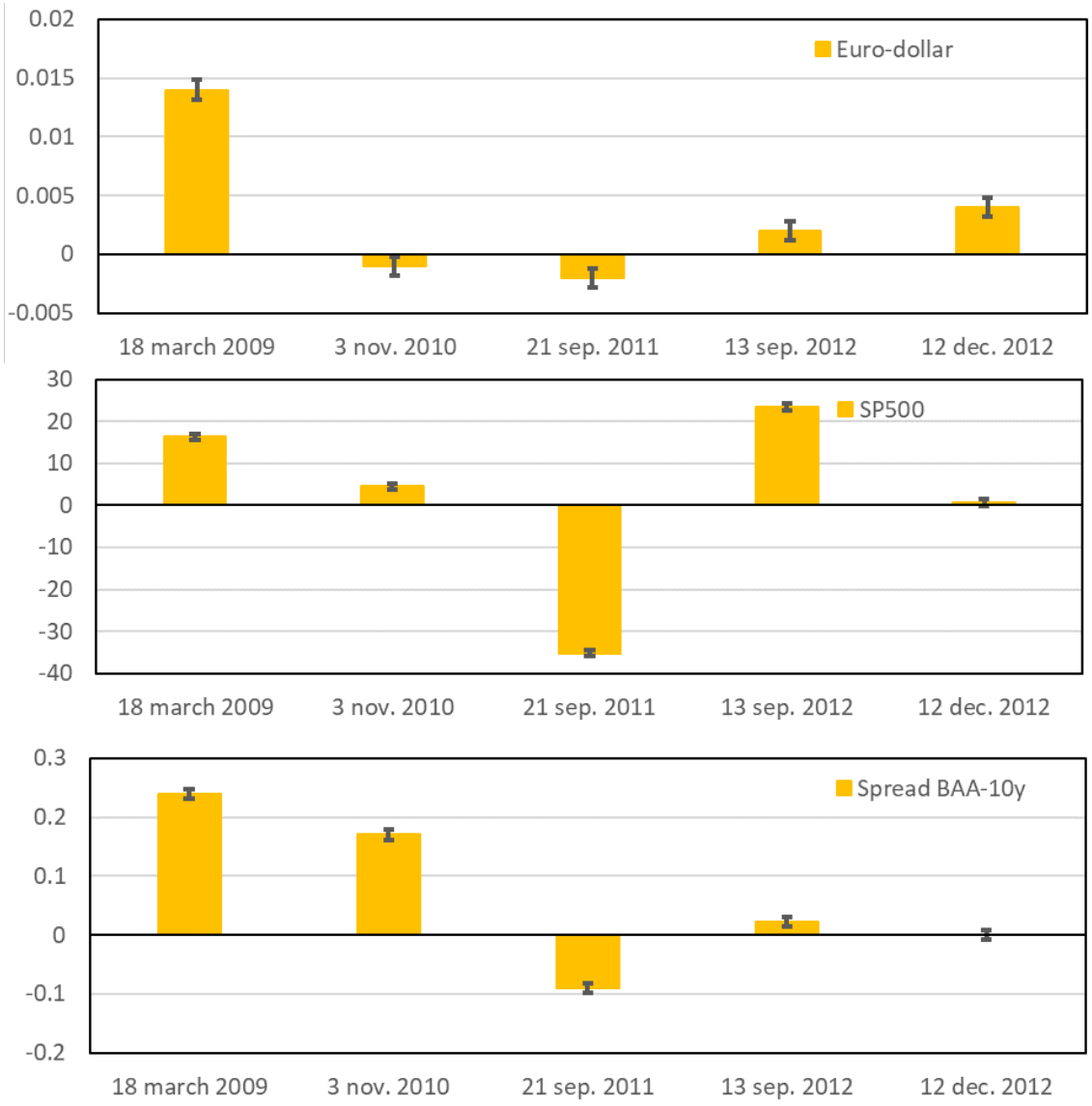
3.1. QE announcements

The transmission of monetary policy is passed through its effect on financial variables: market interest rates, asset prices, exchange rate… As these variables are forward-looking, they may capture the effect of monetary policy measures, implemented later. Consequently, the time of announcement matters. Empirical literature has largely resorted to event-studies to assess the effect of QE.[5] This methodology consists in observing the change of selected financial variables around policy announcements. Assuming that no other information on the macroeconomic and financial environment is released, the change of a variable measures the effect of the announcement on its expectations. Consequently, even an expansionary measure may have a negative impact on stock prices if, for instance, it turns out to be less expansionary compared to what agents expected before the announcement.

Most empirical analyses have focused on expansionary measures: announcements of QE and extension of QE measures. The main message from this literature is that expansionary measures have been effective in reducing long-term interest rates and boosting stock prices. Now that central banks have started to normalize – the Federal Reserve – or consider normalizing monetary policy in the near future – the ECB – the reaction of financial markets deserves attention. As central banks aim at an orderly normalization of financial markets, their communications strategy avoids triggering sharp increases in interest rate as this may risk to derail the recovery. The "tapering" speech pronounced by Ben Bernanke in May 2013 may be seen as an example of inappropriate communication that led to a reversal of economic agents' expectations regarding the stance of monetary policy and resulted in a substantial and unwanted rise in long-term interest rates.

[5] See Szczerbowicz (2015) on the effect of VLTRO (very long-term refinancing operations), CBPP (covered bonds purchase programme) and SMP (securities market programme) implemented by the ECB.

Figure 4: High-frequency effects of the 5 Fed announcements of securities purchases



Source: Blot and Hubert (2017).

Blot and Hubert (2017) have realized an event-study to analyse 11 Fed QE announcements, among which 5 were announcements of securities purchases:

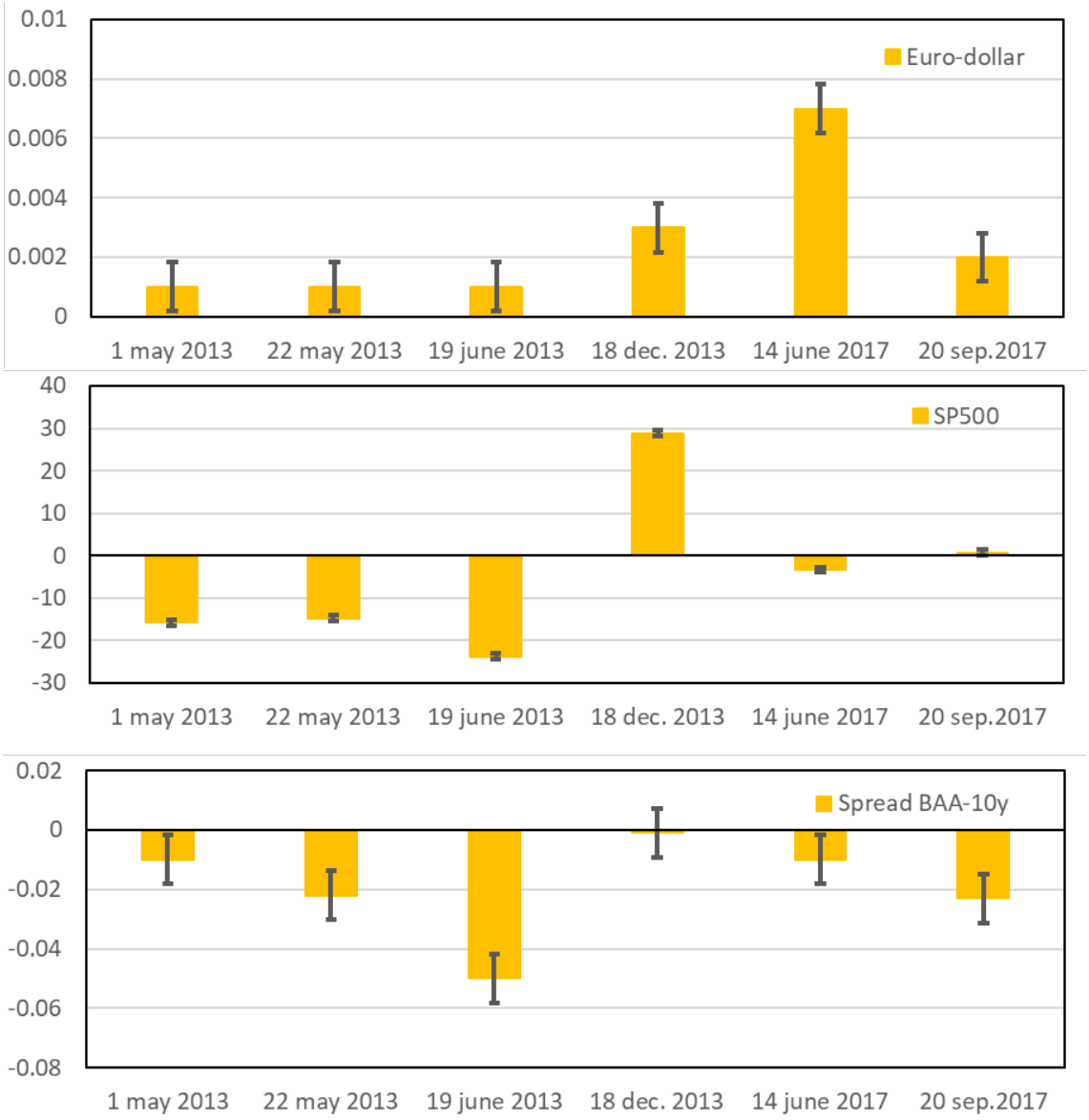
- March 18, 2009 Announcement of QE1: purchases of securities for $ 1,150 billion
- November 3, 2010 Announcement of QE2: purchases of securities for $ 600 billion
- September 21, 2011 Announcement of the twist transaction: purchases of securities of long maturity / sale of securities of short maturity
- September 13, 2012 QE3 Announcement: Monthly purchases of MBS for $ 40 billion
- December 12, 2012 QE3 Announcement: Monthly purchases of Treasuries for $ 45 billion

and 6 announcements of reductions in security purchases (either indicating the slowdown of monthly asset purchase or the decrease of the size of the balance sheet):

- May 1, 2013 The Federal Reserve is ready to increase or decrease its purchases
- May 22, 2013 Tapering speech by Ben Bernanke
- June 19, 2013 The Federal Reserve is ready to increase or decrease its purchases
- December 18, 2013 Announcement of Reduction of Securities Purchases by $ 10 Billion
- June 14, 2017 Announcement of plan to reduce balance sheet size to an undefined date
- September 20, 2017 Announcement of the reduction in balance sheet size.

The response of selected variables to the above announcements has been fairly differentiated (figure 4). Regarding the euro-dollar exchange rate, the announcement of QE-I had more pronounced effect on the exchange rate leading to a significant dollar depreciation. Other announcements had either smaller effect of even led to a small dollar appreciation. The same holds for the S&P 500 and for the spread between Baa bonds and Treasuries. Considering measures indicating a reduction in the size of the QE or announcing the path for the reduction of the Federal Reserve's balance sheet, we may notice that announcement on the tapering in May and June 2013 have been followed by a reduction in stock prices (figure 5). Comparatively, the announcement on the reduction of the size of the balance sheet had minor effect on stock prices. Actually, a depreciation of the dollar set in suggesting that the period for the phasing out of non-standard measures has been longer to what was expected. The strategy was then seen as less restrictive.

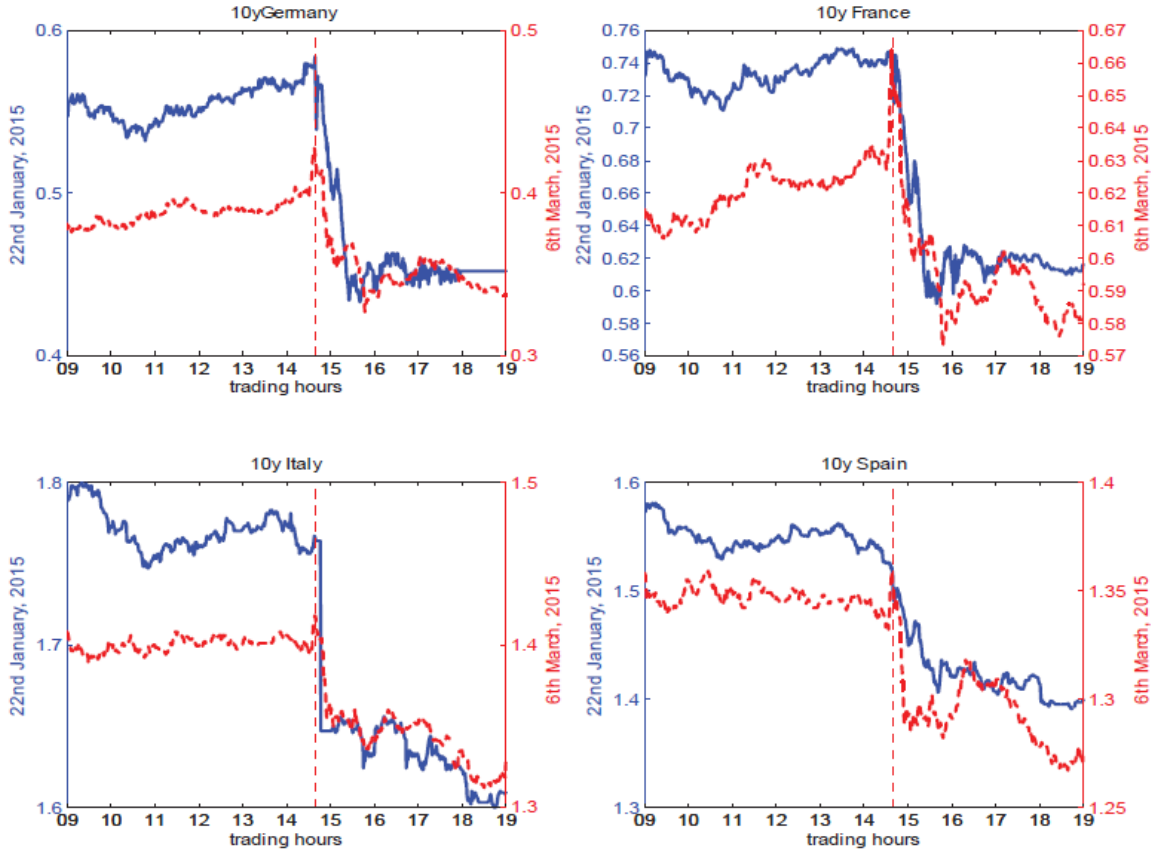
Figure 5: High-frequency effects of the 6 Fed announcements of securities purchases



Source: Blot and Hubert (2017).

These results highlight the role of communication for the exit strategy that will be implemented by the ECB. Undesirable effects of the reduction of asset purchases and of the size of the balance sheet may not necessarily be followed by a significant fall in asset prices. Communication will still play a crucial role for steering expectations and interest rates in the euro area. The strategy of gradual tapering from QE is warranted as long as the recovery in the euro area remains fragile and not shared by a large majority of countries. Analysing uncertainty, Coenen et al. (2017) also show that announcements have not always the same impact. Some decisions may increase uncertainty while other would decrease it. The information conveyed by the central bank would consequently matter.

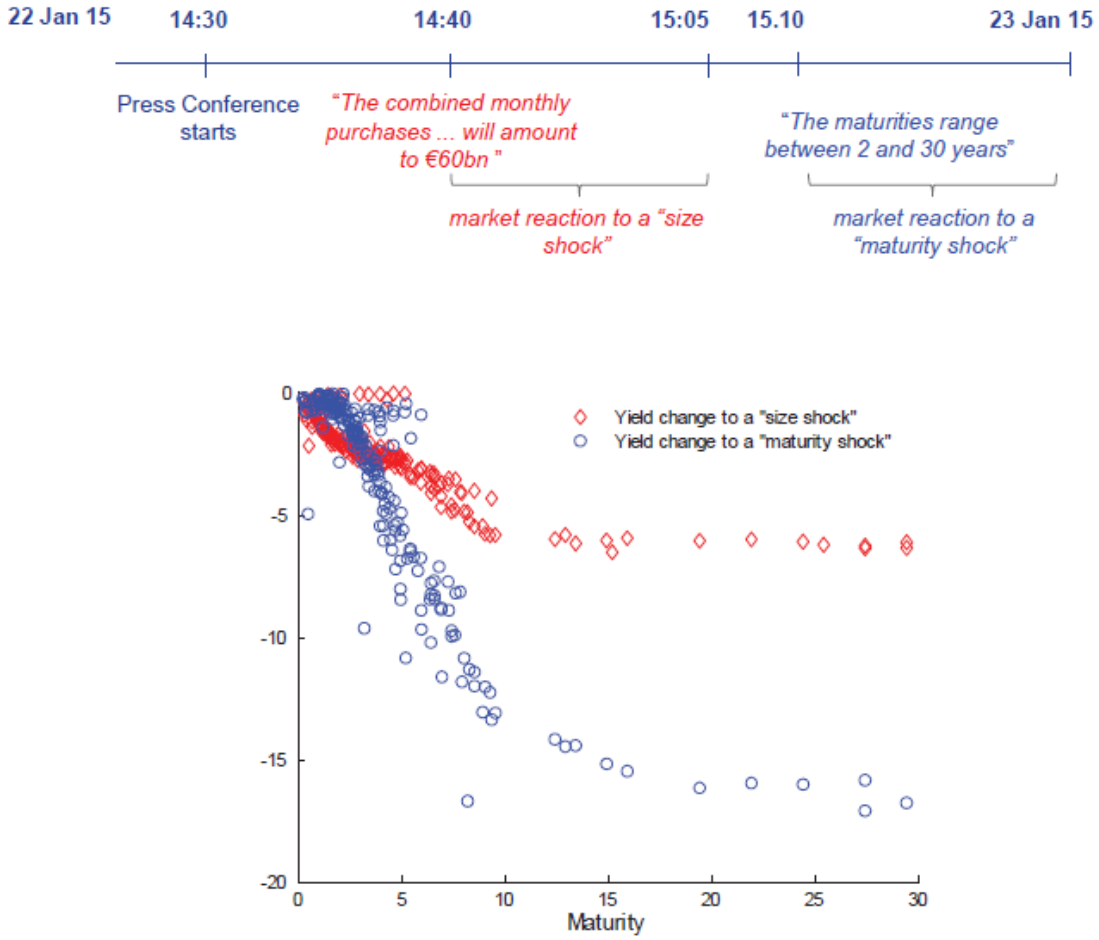
Figure 6: Intraday change in 10-year sovereign yields at the APP announcement dates



Source: Altavilla, Carboni and Motto (2015) and Thomson Reuters. Note: The solid (blue) line represents movements on 22 January 2015 (LHS axis) and dashed (red) line represents movements on 6 March 2015 (RHS axis). Vertical lines represent the start of the ECB Press Conference.

This intuition is illustrated by Altavilla, Carboni and Motto (2015) who focus on the effect of the announcement of the Asset Purchase Programme (APP), i.e. the quantitative easing program implemented by the ECB. First, they assess the intraday change in sovereign yields following the first QE announcement of 22 January 2015 and further details provided by the ECB on 6 March 2015. Their results confirm previous evidence on the significant impact of announcement of expansionary measures. Following both announcements, German, French, Italian and Spanish sovereign yields have decreased significantly (figure 6). Altavilla et al., have also disentangled the impact of the announcement on the amount of assets purchases (size effect) from the impact of the maturity structure (the maturity effect). For German yields, their analysis suggests that the "maturity" effect was stronger than the "size" effect (figure 7).

Figure 7: Reaction of Bund yields around the announcements of (i) the size of the APP and (ii) the maturities' range of the purchases during the 22 January Press Conference



Source: Altavilla, Carboni and Motto (2015) and Thomson Reuters. Note: Each diamond/circle represents the change in individual bonds.

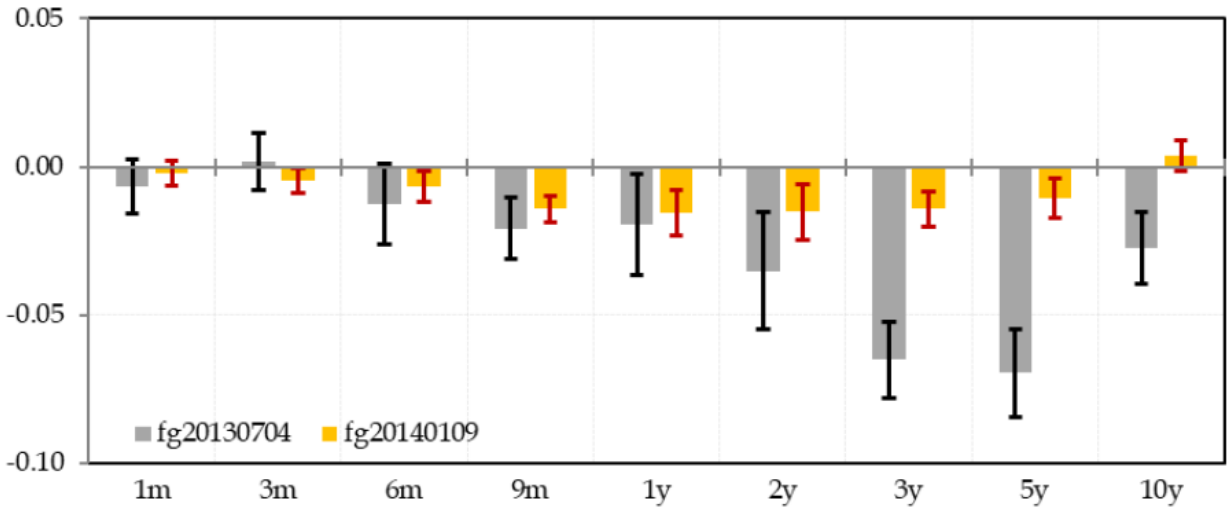
3.2. Forward guidance

The forward guidance policy is also representative of the evolution of the communication during the crisis. Jean-Claude Trichet, the former ECB President, used to say "We never pre-commit", indicating that central bankers were reluctant to provide a path for future monetary policy decisions and that decisions taken today would be reversed if the economic outlook justifies to change the stance of monetary policy. During the crisis, the need to anchor expectations for interest rates at low levels has led ECB President Mario Draghi (and other central bankers) to introduce the so-called forward guidance on interest rates for the first time in July 2013.

The effectiveness of forward guidance depends on its credibility. To deal with the issue of credibility, forward guidance is often associated to the pattern of certain economic indicators (conditioned announcement), like inflation and unemployment. There is a trade-off between the risk of external shocks and the usefulness of managing expectations in general and forward guidance in particular. The higher the uncertainty due to external shocks (about which the central bank has no control) the less credible will forward guidance. In an uncertain environment, the central bank should be very careful with the adoption of conditional announcements, as its credibility may be at stake.

After ECB cut the main refinancing operations (MRO) rate towards its effective lower bound in 2010, forward guidance became one of the few tools available to provide monetary accommodation (Eggertson and Woodford, 2003), together with liquidity provisions and asset purchases. Mario Draghi's statement of 4 July 2013 "The Governing Council expects the key interest rates to remain at present or lower levels for an extended period of time." marks the adoption of a new communication tool by the ECB: forward guidance on interest rates. On 9 January 2014, Mario Draghi reinforced the use of this communication strategy: "we firmly reiterate our forward guidance that we continue to expect the key ECB interest rates to remain at present or lower levels for an extended period of time".

Figure 8: The effect of forward guidance announcements at different maturities



Source: Hubert and Labondance (2017).

Two types of forward guidance policy have been widely used by central banks so far. The Fed has adopted a time-contingent commitment from December 2008 to December 2012, which was afterwards replaced by a state-contingent commitment conditional on the evolution of the labour market. The Bank of England also introduced state-contingent forward guidance conditional on unemployment in August 2013. Similarly, the Bank of Japan used state-contingent forward guidance conditional on inflation between October 2010 and March 2013. The Bank of Canada implemented time-contingent forward guidance between April 2009 and April 2010, as did the Swedish Riksbank during two periods between April 2009 and July 2010 and between February 2013 and December 2014. Finally, the ECB implemented time-contingent forward guidance without referring to an end date or a precise period of time.

Hubert and Labondance (2017) use a high-frequency methodology to estimate the effects of forward guidance, which focuses on movements in the overnight indexed swap (OIS) rates in a narrow window around ECB meetings. The OIS curve is a natural candidate to assess the impact of forward guidance as it represents a combination of short-term interest rate expectations and term premiums.

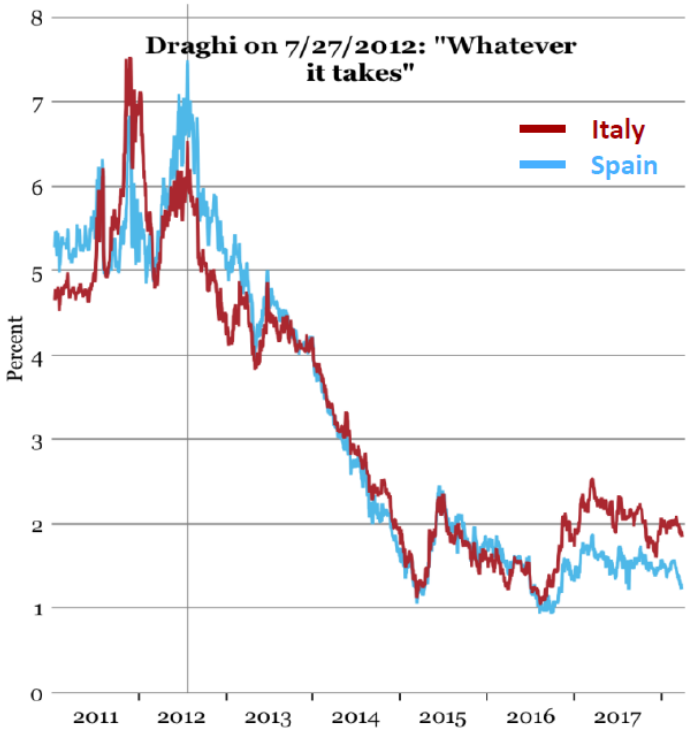
Hubert and Labondance (2017) find that forward guidance announcements reduce OIS rates at most maturities. This result is stronger for longer maturities and persistent. Furthermore, controlling for private macroeconomic information sets in the empirical specification does not alter the negative effect of ECB forward guidance announcement on the term structure of interest rates. This suggests

that the effect of these announcements is more about the stance of future ECB monetary policy than about signalling ECB's views about the macroeconomic outlook.

3.3. "Whatever it takes"

In July 2012, the eurozone was on the brink of collapse, with spreads of Italy and Spain hitting record levels, impeding access to capital markets. On 27 July 2012, speaking at a bankers' forum in London, ECB President Mario Draghi made clear that the ECB "will do whatever it takes" to maintain the stability of the Eurozone. As a reaction, spreads went down significantly, without Draghi effectively using any policy tool.

Figure 9: Italy and Spain: 10-year government bond yields



Source: HSH Nordbank Economics, Macrobond.

The same is true in the opposite direction. The European Central Bank (ECB) announced on 10 March 2016 a series of additional measures to ease monetary policy. The QE program was extended both in terms of size - securities purchases increased from € 60bn to € 80bn per month - and of the types of financial securities eligible for purchases. The major innovation was the adoption of the new Targeted Longer-Term Refinancing Operations (TLTRO), featuring zero or even negative rates, depending on various criteria, including the amount of bank lending to households and businesses.

Markets reaction to the announced measures was favourable. However, the communication at the press conference reduced some of the expected effects. In that occasion, Mario Draghi stated that "the ECB will no longer reduce interest rates", and, as a result, financial markets reassessed their views. While the announced Governing Council decisions were providing a loosening of monetary and financial conditions, Mario Draghi's statement at the press conference that ECB's monetary policy could only be more restrictive going forward reshaped agents' expectations of future policy. This well illustrates the

sensitivity of financial markets to "news" and also that policy gains of central banks communication may easily vanish.

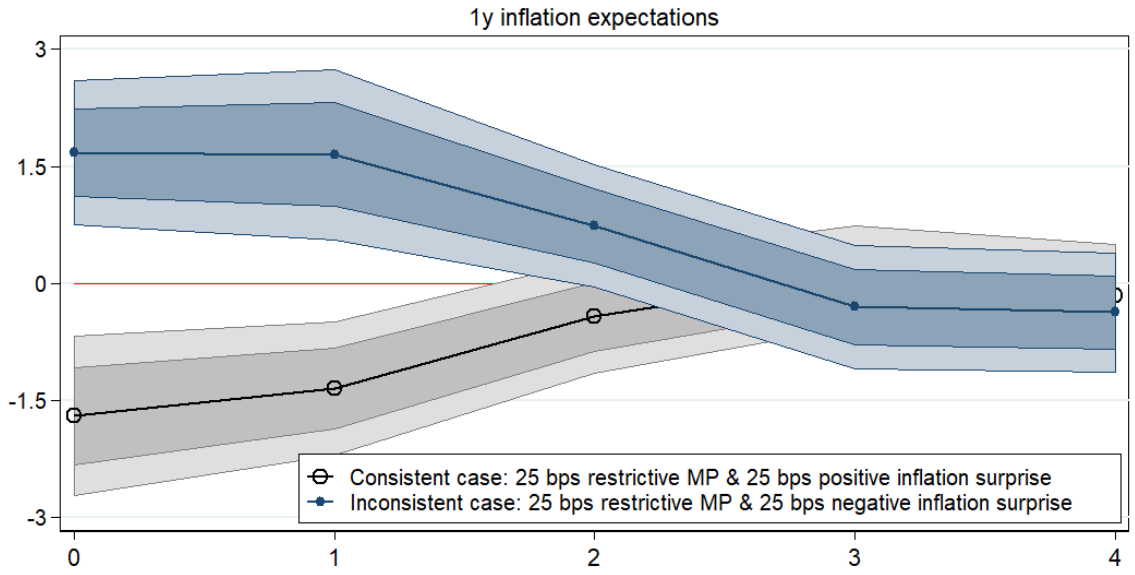
Figure 10: Euro-Dollar exchange rate on March 10, 2016

Source: Boursorama.

4. THE INFLUENCE OF CENTRAL BANK COMMUNICATION ON THE EFFECT OF POLICY DECISIONS

Hubert (2017) assesses whether the central bank's publication of its macroeconomic forecasts affect economic agents' assessment of monetary policy decisions and, ultimately, the effects of monetary policy on the economy at large. The study, based of BoE data[6], investigates whether economic agents' interpretation of monetary policy decisions depends on the information at their disposal. More specifically, this work assesses whether the term structure of inflation expectations responds differently to BoE monetary policy decisions when a) central bank's macroeconomic forecasts of inflation and growth are available, and b) policy decisions are confirmed or contradicted by the internal central bank macroeconomic forecasts published.

Figure 11: Responses of inflation expectations to a restrictive monetary shock



Source: Hubert (2017).

The results suggest that, when monetary shocks and forecast surprises confirm each another, monetary shocks have a greater negative impact on private inflation expectations, possibly because economic agents are able to understand the reaction function of the central bank and therefore infer the true policy decision. When monetary shocks and forecast surprises send conflicting signals, monetary shocks do not show positive effects on inflation expectations, possibly because the conflicting signals prevent economic agents to determine the direction of monetary policy. Therefore, they respond to the macroeconomic information disclosed. These results show that central bank publication of macroeconomic information affects the information processing of private agents and modify their responses to monetary policy decisions.

[6] This paper focuses on UK data because BoE projections have a specific feature that makes it possible to identify econometrically their own effects. Indeed, the research question studied requires that the central bank's projections be not a function of the current policy decision, so that monetary surprises and projection surprises can be identified separately. BoE projections are conditional on the market interest rate and not the policy rate, so the BoE projections are independent of monetary policy decisions.

5. CONCLUSION

This policy brief aimed at emphasizing the role and the importance of communication in modern central banking. It has notably shed some lights on the role played by communication in normal and crisis period for enhancing the transmission of monetary policy. There is now a large body of evidence indicating that communication should be an important and powerful instrument in the toolkit of central banks.

Announcement of QE from the ECB and the implementation of a forward guidance strategy have certainly been instrumental to stabilize the euro area economy, support the recovery and avoid deflation. As monetary policy normalise, the ECB should adopt and communicate a clear and consistent exit strategy. The aim is to manage a smooth and progressive increase in interest so as to avoid any sudden changes in financing conditions that would threaten the ongoing recovery and hamper financial stability.

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Central banks have intensified their communication strategy since the mid 1990's and it has become an important instrument of central banks' policymaking toolkit. A large empirical evidence suggests that central bank communication has effectively enhanced the transmission of monetary policy before and during the financial crisis. Nevertheless, the use of communication as a policy instrument is fragile since it depends on economic agents' perceptions and beliefs. It is crucial that central bank communication be consistent with policy decisions.

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